Abstract of the Disclosure

A system for generating a patch file from an old version of data which consists of a series of elements and a new version of data which also consists of a series of elements. The old version of data is sorted with a data processor alphabetically according to an established alphabet to create a first sorted list of data. A pointer is maintained in order to indicate each element's original location in the old version. Similarly, the new version of data is sorted alphabetically to create a second sorted list of data with a pointer of each element to indicate the element's original location in the new version. Once the two sorted lists are created, they are recursively compared one word (a group of elements) at a time to search for a match of data. Upon finding a match of data, the first and second sorted lists are searched to find the largest sequence of coinciding elements preceding and succeeding the match of data. Each sequence of coinciding words is then stored in a coincidences list. The coincidences list is processed to remove duplicative information and a patch file is created. Several patch files may then be aggregated into a secure, portable compressed archive to decrease the storage and transfer requirements of the patch file. The compressed archive uses an encryption process and may include an authentication process using digital signatures to secure the contents of the patch file from unauthorized access and to validate the identity of the creator of the archive. The archive is preferably in the format of a self-extracting .ZIP file, which file may include a rules-based form of intelligence to detect the presence of the appropriate files to be patched and to determine how the patching process should proceed.

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